

Agencies Reexamine Measures of Race, Ethnicity Used in Public Health Surveillance

Racial and ethnic identification are longstanding subjects of public health surveillance. However, a growing body of evidence suggests that such categories are not consistently defined or measured. Critics charge that, as a result, some public health findings are skewed. Epidemiologists and other researchers now suggest that the usefulness of such categories should be questioned.

- Researchers studying infants who died within a year of birth found that more than 40% of nonblack minority infants were assigned a race at death that was different from the race assigned them at birth in tabulated statistics (1).
- Results of another investigation show that, because of "shifting identity" (persons changing their group identity over time), the Bureau of the Census has underestimated the American Indian population by as much as 35% during the past 30 years (2).
- Numerous researchers have reported that homicide disproportionately affects African-American communities. When income status is considered, however, the effect of homicide in African-American communities is similar to that in white communities, indicating that socioeconomic status has a more direct effect on homicide than race per se (3).

Current guidance lacks definitions, scientific basis

Robert A. Hahn, PhD, MPH, epidemiologist, Centers for Disease Control and Prevention (CDC), recently described the limitations of racial and ethnic data collected under current federal guidelines.

He notes that current federal guidance on assignment of race and ethnicity, issued by the Office of Management and Budget (OMB) in 1978 (4), does not define racial and ethnic categories and was not based on scientific principles. Rather, it was designed to ensure consistency among federal data collection agencies and to include information on Hispanic populations, as required by Congress. The directive specifies four racial categories—American Indian or Alaskan Native, Asian or Pacific Islander, black, and white—and two ethnic categories—Hispanic and non-Hispanic.

Hahn was the principal investigator of the study of the inconsistency in assignment of race on birth and death certificates of nonblack, minority infants (1). He also has studied how people change their ancestral identification over time.

For example, in a national follow-up survey, Hahn and a colleague compared classifications of the same person at initial interview and followup. Only 49% of the study subjects specified the same or similar ancestral identity on both occasions.

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Furthermore, approximately 51% specified only one ethnic background, 29% specified two backgrounds, 13% specified three, and 6% specified four. Among subjects who specified only one ethnic background, 35% changed their ancestral identification from first to follow-up interviews. The proportion of people inconsistently reporting ancestry at initial and follow-up interviews increased in subjects reporting two (42%), three (45%), and four (51%) ethnic backgrounds.

Such changes in ancestral identification over time “complicate the collection and analysis of racial and ethnic information,” he said.

Currently, Hahn is working with CDC’s associate director for Minority Health, Rueben C. Warren, DDS, DrPH, and others in the federal government, including OMB and the Bureau of the Census, and the private sector in a review of federal guidelines on use of race and ethnicity in public health surveillance.

Concepts of race and ethnicity due for reassessment

First, Hahn says, the basic concepts of race and ethnicity must be reassessed. “The popular notion is that race is a biological category, but that is certainly not what we measure in public health surveillance or in the [U.S.] census,” he said. “When we ask people what they are, [the answer] may have something to do with biology, but it has more to do with perception.”

Although Hahn agrees that there are some genetic differences among populations that account for some differences in health status, he attributes most of the differences to culture, socioeconomic status, or discrimination.

“Either people have high rates of exposure [to disease or hazardous substances] because of poor housing or poor jobs, or they have inadequate access to health care, or once they get health care, they’re discriminated against,” he explained.

ATSDR, CDC take steps to improve use of race, ethnicity data

ATSDR and CDC have taken steps to improve the agencies’ interpretation of race and ethnicity data.

ATSDR continues to use the racial and ethnic categories mandated by OMB, according to Wendy Kaye, PhD, chief, Epidemiology and Surveillance Branch, Division of Health Studies. “We’ve had a number of discussions about the categories,” she said. “But we go with the standard because we’re not sure the categories we’ve come up with would be any better.” She added that ATSDR will comply with any new directive from OMB.

Maureen Y. Lichtveld, MD, MPH, head of the minority health program at ATSDR, said that while ATSDR waits for direction in the use of racial and ethnic categories in public health surveillance, it strives to keep abreast of and use currently preferred terminology in its communications with communities affected by hazardous waste.

CDC has also taken steps to address problems associated with racial and ethnic labels. In 1991, CDC’s Surveillance Coordination Group developed recommendations on electronic systems for public health surveillance that addressed the issue of separate categories for reporting of race and ethnicity (5).

MMWR requires authors to explain use of race, ethnicity in reports

The *Morbidity and Mortality Weekly Report (MMWR)* now requires authors of all published reports to explain why race or ethnicity is a risk factor, according to Richard A. Goodman, MD, MPH, editor. “For the past year and a half, the [CDC] director’s office has indicated that if race or ethnicity is described as a risk factor, it should be explained and interpreted,” he said. “We’re trying to get people to understand that we don’t want to run the risk of stigmatization [e.g., identifying race as a risk factor when in fact socioeconomic status or some other variable is the true risk factor].”

Authors have had difficulty accepting the new requirement, Goodman says. “The fact that it has been difficult underscores the uncertainty associated with racial and ethnic terms and what they mean, and how fraught with problems the terms are,” he said.

CDC is educating front-line public health professionals

Training is one approach CDC is using to help overcome the difficulty. A case study of racial and ethnic designation was used in fall 1993 as part of the Public Health Surveillance seminar for first-year Epidemic Intelligence Surveillance (EIS) officers.

The training specifically addresses three areas:

- how race and ethnicity information is recorded on the death certificate (by the funeral director preparing the body);
- how race is identified on birth certificates and how it can vary greatly; and
- how the National Center for Health Statistics identified race and ethnicity before 1989 and after 1989 and how racial and ethnic designations differed as a result.

During the case study, participants are asked to develop working definitions of race and ethnicity and to identify the specific races or ethnicities necessary for the research about to be conducted.

“The idea is to show that race and ethnicity categories overlap, that they’re not cut-and-dried,” explained Leslie Boss, MPH, PhD, the trainer in EPO’s Division of Training who developed the case study. She added that it’s important for the epidemiologist or other person working with such data to recognize that, “as epidemiologists, we bring biases to public health, but data collection also brings biases that we need to understand.”

CDC has lead role in developing minority health surveillance system

Finally, to ensure that the use of race and ethnicity in public health surveillance is improved throughout the Public Health Service (PHS), CDC has taken the lead role in developing a surveillance system for minority health, according to CDC’s Dr. Warren. Developing such a system “is probably the most important endeavor we can engage in,” he said.

Also in the works is a joint venture by Warren’s office and the PHS Office of Minority Health to update the 1985 *Report of the Secretary’s Task Force on Black and Minority Health*, using some of what was learned during a CDC/ATSDR workshop on use of race and ethnicity in public health surveillance (see related article, page 4). The first part of the update, on excess deaths in minority populations, should be released shortly, Dr. Warren said. Updates on morbidity and disability and quality-of-life issues will be released in 1995.

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2. Passel JS, Berman PA. Quality of the 1980 census data for American Indians. *Soc Biol* 1986;33:163-82.
3. Centers for Disease Control and Prevention. Use of race and ethnicity in public health surveillance. Summary of the CDC/ATSDR Workshop. *MMWR* 1993;42(No. RR-10):vii.
4. US Department of Commerce: Directive No. 15. Race and ethnic standards for federal statistics and administrative reporting. Statistical policy handbook, Office of Federal Statistical Policy and Standards, 1978.
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CDC/ATSDR Workshop on Race, Ethnicity Defined Problems, Proposed Solutions

Recognizing that information on race and ethnicity is a "critical element" in public health surveillance efforts and that existing measures are limited, The Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR) convened a workshop in March 1993 for federal, academic, and private sector public health professionals.

The work of participants was recently published in *Public Health Reports*.

"[D]ifferences in terminology, data collection procedures, perceptions of group identity, and changing demographics of the U.S. population present particular challenges for public health surveillance"—Robert A. Hahn, PhD, MPH, epidemiologist, and Donna F. Stroup, PhD, MSC, director, Division of Surveillance and Epidemiology, Epidemiology Program Office, CDC (1).

"[C]hanging ethnic self-identity and concepts, intent of the question, consistency of reporting, and the classification of persons of mixed racial parentage affect the quality of the [Census] data"—Nameo R. McKenney, MA, and Claudette E. Bennett, PhD, Bureau of the Census (2).

"The concept of race is socially meaningful but of limited biological significance"—David R. Williams, PhD, MPH, Department of Sociology, University of Michigan, and the Survey Research Center of the Institute for Social Research; Risa Lavizzo-Mourey, MD, MBA, deputy administrator, Agency for Health Care Policy and Research; and Rueben C. Warren, DDS, DrPH, associate director for Minority Health, CDC (3).

Participants were assigned to workgroups to consider problems associated with use of race and ethnicity in public surveillance. Recommendations of the workgroups included these:

- The terms *race* and *ethnicity* are not well defined or consistently measured by federal agencies, and, if they are to be used in public health surveillance, their specificity must be improved.
- When information on the health of racial and ethnic populations is reported, the explanation should address why the information has been collected; how it was collected; and what the findings mean.
- Racial and ethnic populations being surveyed must participate in the planning and design of public health surveillance programs.

"The concept of race is socially meaningful but of limited biological significance."

— David R. Williams

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Toxicologists Set Minimal Risk Levels for Hazardous Substances

“Will I get sick?” is your first question after possibly being exposed to a hazardous substance.

Agency for Toxic Substances and Disease Registry (ATSDR) scientists help answer that question by determining minimal risk levels (MRLs) of hazardous substances.

A minimal risk level (MRL)¹ is a dose or amount that would pose little risk of noncancer health effects if you were exposed to it.

To derive MRLs, scientists comprehensively review all the known published data on a substance. They translate that information into a level of exposure at which it's unlikely a person will be harmed, according to Jim Holler, PhD, chief, Quality Assurance Branch, Division of Toxicology, ATSDR.

Dr. Holler explained that deriving an MRL is an extensive effort performed by toxicological profile² authors and managers. An Agency workgroup oversees the process and an interagency group reviews the findings. The Agency and its Board of Scientific Counselors are currently reviewing MRL concepts and procedures for the purpose of update.

“MRLs can be used as a health guide for a particular substance based on all the medical information that is available. Other scientists can readily use the technically sound MRLs, knowing that they've been reviewed and approved by ATSDR,” Dr. Holler said.

“MRLs are part of our toxicological profiles, so they are subject to public review. That means if anyone has alternative views about the MRLs or the studies for a particular substance, they have an opportunity to tell us about that information.”

ATSDR health assessors use MRLs two ways in the development of a public health assessment.³ First, they are used to develop [generic] comparison values called *environmental media evaluation guidelines* (EMEGs).

“We use those guidelines [EMEGs] as one of our screens to determine what contaminants will be discussed further in the health assessment,” said Allan Susten, PhD, DABT, assistant director for science, Division of Health Assessment and Consultation, ATSDR.

“If the level of the hazardous substance is below the guideline (EMEG) or other comparison value, we usually don't discuss it further. If it's above the level, we do carry it into the health assessment,” Dr. Susten added. “Sometimes our health assessors have numerous contaminants to consider. The EMEGs that are derived from MRLs give us a quick way to reduce lots of contaminants to the most important ones we must address.”

“Second, we use the MRLs as a screen when discussing potential health effects of the contaminants that have been selected. When site-specific factors are considered and a calculated dose is below an MRL, the conclusion is usually that noncancer health effects are not likely.

“When the calculated dose is above the MRL, the health assessor must carefully evaluate all available epidemiologic and toxicologic data. It's important to

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¹A minimal risk level (MRL) is an estimate of daily human exposure to a dose of a chemical that is likely to be without an appreciable risk of adverse noncancer health effects over a specified duration of exposure.

²An ATSDR toxicological profile is a document about a specific substance, for example, lead, in which ATSDR scientists interpret all known information on the substance and specify the levels at which people may be harmed if exposed. The profile also identifies significant gaps in knowledge on the substance and serves to initiate further research if needed. About 200 substances have been profiled so far, according to Lester Smith, PhD, chief, Toxicological Information Branch, Division of Toxicology, ATSDR.

³A public health assessment has the following functions:

- To analyze and state the public health implications posed by the facility or release under consideration
- To evaluate relevant environmental data, health outcome data, and community concerns associated with a site where hazardous substances have been released
- To identify populations living or working on or near hazardous waste sites for which more extensive public health actions or studies are indicated

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note that a calculated dose that exceeds an MRL does not automatically mean a health threat exists," Dr. Susten said.

MRLs are now part of ATSDR's hazardous substances database (HazDat). Soon, much of the database, including MRLs, will be available on the Internet.

For copies of substance-specific toxicological profiles, contact the National Technical Information Service (NTIS), Sills Building, 5285 Port Royal Road, Springfield, Virginia 22151; telephone (703) 487-4650 or (800) 553-6847.

For more information about MRLs, contact Selene Chou, PhD, who heads the MRL Workgroup, or Dr. Jim Holler at the Division of Toxicology, ATSDR, 1600 Clifton Road, NE, Mailstop E29, Atlanta, Georgia 30333; telephone (404) 639-6308.

For more information on public health assessments, contact Dr. Allan Susten at the Division of Health Assessment and Consultation, 1600 Clifton Road, NE, Mailstop E32, Atlanta, Georgia 30333; telephone (404) 639-0610.

Letter to the Editor

Risk Communication: A Few Observations From a Physician/Toxicologist/Communicator

The January 1994 issue of ATSDR's *Hazardous Substances and Public Health* contained a number of informative articles regarding public perceptions of risk and risk communication. I concur completely with a number of points, but would like to add a few more based upon many professional encounters in risk communication.

It is now accepted as an article of faith that pure scientific recitation of difficult jargon and complex numbers is both useless and often inflammatory. With this I wholeheartedly agree. It is also recognized that paternalistic dismissals of people's concerns, i.e., by comparative risk analysis, is equally ineffective. Beyond this, I find that as an occupational health physi-

cian I am still invariably faced with certain questions: "Will this chemical spill produce birth defects?" "How hazardous is this waste site?" "Will my family get cancer from these emissions?" As a physician, one who also happens to be trained in both toxicology and communication, I am duty-bound to answer these questions as honestly but also as definitively as I can.

Before I tell you how I do this, let us analogize this to other health situations. Patients ask all the time, "What are the chances that my wife will survive the operation?" "If I undergo the chemotherapy, what is the likelihood that I'll be alive in 5 years?" "If I take this medication, what side effects am I likely to have?" Informed consent is an essential part of medicine today. We routinely help patients understand and weigh the risks and benefits of the things we recommend and the treatments we provide. Environmental risks are no different.

If, for example, exposure levels to a known human carcinogen, e.g., benzene, were low or brief or both, it would be accurate and responsible to let concerned residents know that their risks, while not nonexistent, are extremely low. To do less, in the face of concerns and direct questions is, in my opinion, irresponsible.

To couch every answer with "much of this is unknown" increases concern and contributes to undue distress. If risks are likely to be low, we owe it to the audience to say so. Furthermore, chemicals in our environment are not as arcane or mysterious as people charged with communicating risks sometimes believe. The toxicologic and environmental epidemiology literature is extensive and, while it may be less definitive than we might like, it can certainly help provide meaningful answers. It is true that we cannot tell whether a particular person might get cancer; nor can we tell whether a particular person will survive an operation or develop a drug reaction. However, we should not let these uncertainties paralyze us into a series of "I don't know" answers. The patient undergoing surgery wants our best medical estimates. People suffering environmental exposures and concerns deserve no less.

I do agree that this has to be done carefully and only in the context of a dialogue, not a lecture. If that context is carefully observed, we can even use comparative

risks to assist the public to understand. Never should we use comparative risks, e.g., the risks of dying in an automobile accident or of being struck by lightning, to dismiss concerns. It is true that angry citizens don't care and are not made more willing to accept involuntary risks by our seeming to gloss over them. However, once we establish a dialogue and recognize and acknowledge the legitimate and proper concerns of our audience, comparative risk discussions can be used effectively to help the public visualize what we are telling them. A cancer risk of 10^{-6} (one in a million) means nothing to people, but comparing it to more familiar risks helps to place it into context: it is the same as the risk of developing lung cancer from smoking two cigarettes in a lifetime or of developing liver cancer from the aflatoxins in 40 tablespoons of peanut butter.

I am concerned that current discussions of risk communication have so focused on problems of overly technical communicators and the dangers of paternalistic treatment of audiences that the pendulum has swung too far in the direction of discourse and dialogue with no substance. In my experience, people want, demand, and need answers. One summer I met with a group of parents concerned about their children's exposure to petroleum-based solvents in a school building. After I explained the elements of toxicology, the nature of the chemicals, and why the levels found would not produce health problems, I remember well one mother's deep sigh of relief and the question, "Where were you when this school contamination saga began?"

People want and appreciate factual and numerical information if it enhances their understanding and helps assuage their fears. Proper communication requires a strong and effective balance between communication and social science methodologies and technical/medical knowledge if we are to serve the needs of a worried public.

Ronald E. Gots, MD, PhD
President
Risk Communication International

The author, a physician-toxicologist, is founder and president of Risk Communication International, in Bethesda, Maryland.

From the Tribes

In 1965 the Great Lakes Inter-Tribal Council Inc. (GLITC) of Wisconsin was founded to provide a structure through which member tribes could work toward self-sufficiency and constructive change. The founding members felt that through inter-tribal unity they could better develop and integrate programs, seek outside assistance, and deal more effectively with government agencies.

The organization was chartered as a nonprofit corporation by 10 Wisconsin tribes. The 10 tribes who originally formed the organization, and who remain members, are the following:

Bad River Band of Lake Superior Chippewa
Lac Courte Oreilles Band of Lake Superior Chippewa
Lac du Flambeau Band of Lake Superior Chippewa
Red Cliff Band of Lake Superior Chippewa
Sokaogon (Mole Lake) Band of Lake Superior Chippewa
St. Croix Band of Lake Superior Chippewa
Forest County Potawatomi Tribe
Stockbridge-Munsee Tribe of Wisconsin
Oneida Tribe of Indians of Wisconsin
Wisconsin Winnebago Tribe

In April 1988, the Menominee Tribe of Wisconsin officially joined the council, making GLITC one of the few intertribal organizations serving all recognized tribes within the borders of a state.

Originally, GLITC's primary function was to provide program administrative services to its member tribes. GLITC's current focus is on providing training and technical assistance to supplement member tribal capacity to serve the needs of their constituents. As part of this focus, GLITC supported and contributed to the efforts of the EPA workgroup that conducted the Wisconsin Tribes Comparative Risk Project. GLITC endorsed the results and recommendations of the project, reported in *Tribes at Risk: The Wisconsin Tribes Comparative Risk Project*, (EPA) 230-R-92-017, October 1992, as the first phase of a new risk-based cooperative effort toward better environmental management. (See related story, page 8.)

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For more information, contact Joseph Bresette, the Great Lakes Inter-Tribal Council Inc., P.O. Box 9, Lac du Flambeau, Wisconsin 54538; telephone (715) 588-3324.

ATSDR Sponsors Symposium on Potential Human Health Effects of Great Lakes Pollution

One-fifth of the fresh water in the United States comes from the Great Lakes. Unfortunately, industrial abuse

has polluted these lakes with contaminants such as polychlorinated biphenyls (PCBs), dioxins, alkylated lead, and methylmercury. Because the Great Lakes serve as a major supplier of food and water for people living in the basin, scientists and health professionals came together May 4-6 in Detroit, Michigan, to discuss the possible long-term health effects of consuming contaminated water and fish.

The 2½-day meeting was cosponsored by the Agency for Toxic Substances and Disease Registry (ATSDR);

***Tribes at Risk* Describes, Ranks Environmental Problems**

Tribes at Risk describes the results of a project conducted in 1991 and 1992 to evaluate the environmental risks faced by the 11 American Indian Tribes in the state of Wisconsin. The study was the first comparative risk project conducted by the Environmental Protection Agency (EPA) to focus on American Indians and their particular environmental concerns.

The project had four specific objectives: (1) to determine the relative severity of the different environmental problems facing the Wisconsin Tribes; (2) to learn how the comparative risk framework and methods should be adjusted to fit the unique characteristics of the Wisconsin Tribes; (3) to determine how the risks facing the Wisconsin Tribes compare with those facing populations studied in other comparative risk projects; and (4) by gaining a better understanding of the environmental problems facing the Tribes, to provide a start toward better managing these problems.

Twenty-two environmental problems were ranked in terms of the health risks, ecologic risks, and social and economic risks they posed to the Tribes. The following environmental problems ranked as most serious for each type of risk:

HUMAN HEALTH RISK

- Food contamination
- Nonpoint source pollution of surface water
- Indoor air pollution (other than radon)
- Radon

- Drinking water contamination
- Groundwater contamination

ECOLOGICAL RISK

- Nonpoint source pollution of surface water
- Acid deposition
- Physical degradation of water and wetlands

SOCIAL AND ECONOMIC DAMAGES

- Nonpoint source pollution of surface water
- Physical degradation of water and wetlands
- Food contamination
- Physical degradation of terrestrial ecosystems
- Unmanaged hazardous waste sites
- Acid deposition

Air deposition of toxins on water and land was the single most important source of risks.

Air deposition of PCBs, mercury, and other toxins on water and land was the single most important source of risks. Fish and game had bioaccumulated these chemicals to levels posing health, ecologic, and cultural risks to an American Indian population that relied heavily on local fish and game for subsistence. A second problem facing the Wisconsin Tribes is the high level of radon found on many of the reservations.

For more information, contact Catherine Tunis, US EPA, Office of Policy, Planning and Evaluation, Regional and State Planning Branch, 401 M Street, SW (PM-222A), Washington, DC 20460; telephone (202) 260-2698; fax (202) 260-2704.

Health Canada, a Canadian federal agency; and the International Life Sciences Institute (ILSI), a non-profit organization specializing in risk assessment. The symposium was a forum for scientific discussion about research outcomes of epidemiologic and environmental investigations and the potential health effects of exposure to Great Lakes contaminants.

Much of the symposium was devoted to the progress of ATSDR's 10 ongoing Great Lakes research projects, including 8 epidemiologic studies focusing on exposure to a variety of persistent toxic substances such as methylmercury, polychlorinated biphenyls (PCBs), dichlorodiphenyl trichloroethane (DDT), dieldrin, toxaphene, mirex, benzo[a]pyrene, hexachlorobenzene, furans, dioxins, and alkylated lead among cohorts such as charter boat captains, Native Americans, and fetuses and nursing infants of mothers who consume contaminated Great Lakes fish (see related story, "Charter Boat Captains Target of Great Lakes Health Study," *Hazardous Substances and Public Health*, vol. 3, no. 2, page 9, May 1993.)

Participants also heard varied perspectives on related topics—the need to harmonize health studies for comparability, Canada's Great Lakes health effects research, developments in analytical methods and quality assurance, historical changes in exposure characterization, new approaches for assessing biomarkers of exposure, health information databases in the Great Lakes, and reproductive health studies characterizing endocrine system disruption in animals exposed to chlorinated hydrocarbons.

Proceedings of the meeting are expected to be available in early 1995. To receive a copy or for more information, contact Heraline Hicks, PhD, ATSDR, Division of Toxicology, 1600 Clifton Road, NE, Mailstop E29, Atlanta, Georgia 30333; telephone (404) 639-6306; fax (404) 639-6315.

Article contributed by Lynn Bradley, environmental health project director, Association of State and Territorial Health Officials (ASTHO), Washington, DC.

ANNOUNCEMENTS

Health Studies Available to the Public

Environmental health scientists at ATSDR conduct health studies at various Superfund sites nationwide to evaluate the health effects of hazardous substances on exposed populations. The following are available to the public through the National Technical Information Service (NTIS):

Health Study to Assess Methylmercury Exposure Among Members of the Fond du Lac Band of Chippewa Indians in Northern Minnesota, Bemidji, Minnesota (January 1994) NTIS no. PB94-134798. Cost: \$27 (paperback) plus \$3 shipping and handling.

Clear Creek/Central Mine Waste Exposure Study—Part II: Clear Creek/Central City Mine Waste Sites, Colorado, Colorado Department of Health, Division of Disease Control and Environmental Epidemiology (February 1994) NTIS no. PB94-136702. Cost: \$27 (paperback) plus \$3 shipping and handling.

The Globeville Childhood Metals Study: An Exposure Study, Denver, Colorado; Colorado Department of Health; Division of Disease Control and Environmental Epidemiology (February 1994) NTIS no. PB94-136694. Cost: \$36.50 (paperback) plus \$3 shipping and handling.

Site-Specific Surveillance Project at the Koppers Company, Inc. National Priorities List Site, Texarkana, Texas (March 1994) NTIS no. PB94-154051. Cost: \$27 (paperback) plus \$3 shipping and handling.

Hydrofluoric Acid Spill Symptom Prevalence Study, Texas City, Texas (April 1993) NTIS no. PB93-192961. Cost \$27: (paperback) plus \$3 shipping and handling.

To order these health studies and others prepared by ATSDR, contact NTIS, Sills Building, 5285 Port Royal Road, Springfield, Virginia 22151; telephone (703) 487-4650; fax (703) 321-8547. For more information

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on health studies activities, contact Sharon Campolucci, RN, MSN, deputy director, Division of Health Studies, ATSDR, 1600 Clifton Road, NE, Mailstop E31, Atlanta, Georgia 30333; telephone (404) 639-6200.

Courses

Harvard Short Courses

The Harvard School of Public Health is offering the following short courses in the area of environmental radiation and environmental management:

Occupational and Environmental Radiation Protection, August 15-19, 1994. This course covers basic radiation protection. Topics include atomic structure and radioactivity, radiation sources and types, biological effects of exposures, external and internal hazards, monitoring and instrumentation, protection standards and dosimetry, and regulations. Lecture-discussion sessions supplemented by laboratory demonstrations. Cost: \$1,145.

Advanced Workshop on Occupational and Environmental Radiation Protection, August 22-26, 1994. Covers the latest developments and issues related to occupational and environmental radiation protection. Topics include radiation protection standards and recommendations, radioactive waste management, criteria for decontamination and decommissioning of NRC-licensed facilities, radiation litigation, DOE/DOD environmental restoration legislation, occupational worker epidemiology, and radiation litigation. Cost: \$1,195.

Analyzing Risk: Science, Assessment, and Management, September 27-30, 1994. Topics include the scientific bases of risk assessment of chemicals and radiation in toxicology and epidemiology; methods of computing risk estimates; advances in the field, including new mechanistic and distribution approaches; and the role of these tools in communicating with the public and decision makers. Case studies will be presented. Cost: \$995.

For more information about these and other available courses, contact Kathryn Lord, Harvard School of Public Health, 677 Huntington Avenue, Boston, Massachusetts 02115; telephone (617) 432-1171; fax (617) 432-1969.

University of Alabama at Birmingham

The Deep South Center for Occupational Health and Safety at the University of Alabama at Birmingham School of Public Health is offering the following training opportunities:

Seventh Annual Occupational Medicine Update, September 16-17, 1994. This program will focus on current concerns in occupational medicine for the physician, nurse, and safety professional. Topics include the following: Diagnosing Environmental Illness: Risk Assessment; Ethical Concerns for the Occupational Health Professional; Legal Issues with a Focus on Paternal Leave; Legal Issues, ADA, and Case Law; Occupational Medicine and Health Reform; TB and Controls for the Occupational Setting; Evaluation of Surveillance Techniques for Carpal Tunnel Syndrome; Drug Testing for the Workplace with Emphasis on Changes to DOT Regulations; Practical Interpretations of Risk Assessment; and Risk Assessment. Cost: \$250.

Total Quality—Safety & Health: A Joint Venture, October 24-26, 1994. This course covers detailed concepts and components of Total Quality (TQ) in a highly interactive, "how to" format. Participants will learn how they can better interface with TQ in their safety and health programs. Cost: \$450.

For more information about these and other available courses, contact Cherie Hunt, The Deep South Center for Occupational Health and Safety, UAB, School of Public Health, Birmingham, Alabama; telephone (205) 934-7178.

University of North Carolina

The University of North Carolina Occupational Safety and Health Education Resource Center in Chapel Hill, North Carolina, is offering the following training opportunities:

Fourth Annual Forum for Advances in Occupational Health Nursing, September 7-9, 1994. This 3-day course is designed for occupational health professionals interested in enhancing their leadership, management, and communication skills. Through lecture presentations and workshop sessions, participants will learn about innovative approaches to managing occu-

pational health services and programs. In addition, this forum will provide an opportunity for participants to network with leaders and experts in the field, and to exchange ideas to foster creative approaches to improve practice and management.

Comprehensive Industrial Hygiene Review, September 18-19, 1994. This course is designed for practicing industrial hygienists seeking a review of the field or preparing to take the American Board of Industrial Hygiene (ABIH) comprehensive examination.

For more information about these and other available courses, contact the Occupational Safety and Health Educational Resource Center, University of North Carolina, 109 Conner Drive, Suite 1101, Chapel Hill, North Carolina 27514; telephone (919) 962-2101; fax (919) 966-7579.

University of Utah

The Rocky Mountain Center for Occupational and Environmental Medicine at the University of Utah, Salt Lake City, is offering the following training opportunities:

Lead Abatement Training for Inspectors, August 24-26, 1994. This 3-day course is for individuals involved in inspecting abatement projects related to lead-containing materials.

Environmental Contamination: Risk Analysis and Management, September 19-20, 1994. This 2-day course is designed to (1) clarify formal procedures for site investigation; (2) evaluate potential long-term health effects; (3) evaluate disease surveillance data; (4) investigate disease clusters; and (5) work with multi-state regulations and health professionals.

Lead Abatement for Contractors and Supervisors, October 3-7, 1994. This 5-day course is for persons involved in removing asbestos-containing materials or supervising abatement projects in accordance with EPA, state, and local regulations.

Reproductive Hazards in the Workplace and the Environment, October 7, 1994. This 1-day course contains instruction on the toxicology and epidemiology of reproductive hazards, along with some clinical instruction.

For more information about these and other courses, contact the Rocky Mountain Center of Occupational and Environmental Health, Department of Family and Preventive Medicine, Building 512, Salt Lake City, Utah 84112; telephone (801) 581-5710.

Call for Papers

PREVENTION 95, the twelfth annual national disease prevention and health promotion meeting, will be held in New Orleans, Louisiana, March 30 - April 2, 1995. The meeting theme *Outcomes and Accountability* will be the focus of four days of general sessions, concurrent sessions, poster sessions, workshops, and special interest group discussions.

Outcomes and Accountability will provide information and skills needed by health professionals concerned with prevention to develop and use appropriate outcomes measures and to recognize their strengths and limitations. Issues and problems in assuring and communicating accountability will also be addressed.

PREVENTION is the annual meeting of the American College of Preventive Medicine and the Association of Teachers of Preventive Medicine. The purpose of the conference is to provide a forum for physicians and other health professionals with special expertise or interest in disease prevention and health promotion. The conference highlights advances in prevention through the presentation of

- scientific research
- education and training innovations
- health care policy trends and activities
- practice issues
- organizational/management models
- health promotion programs

Submissions relating to the theme and conference focus are encouraged. However, submissions in any area of preventive medicine, including but not limited to clinical preventive medicine, occupational medicine, aerospace medicine, public health, and medical education are welcomed. Deadline for submission is October 3, 1994.

Continued

Continued from page 11

For more information or to obtain an abstract or workshop proposal form, please contact PREVENTION 95, 1015 15th Street, NW, Suite 403, Washington, DC 20005-2605; telephone (202) 789-0006.

CALENDAR

SEPTEMBER

September 21-23, 1994: American Academy of Pediatrics CME Course and Exhibition, Atlantic City, New Jersey. *Contact:* AAP, 141 Northwest Point Boulevard, P.O. Box 927, Elk Grove, Illinois 60009-0927; telephone (708) 981-4321; fax (708) 228-5059.

September 22-15, 1994: Emerging Issues in Occupational and Environmental Health, San Francisco, California. *Contact:* Western Occupational and Environmental Medical Association, 50 First Street, Suite 300, San Francisco, California 94105; telephone (415) 764-4803.

September 26-30, 1994: First North American Conference and Exhibition: Emerging Clean Air Technologies & Business Opportunities "Meeting Global Air Challenges Through Partnerships," Toronto, Ontario, Canada. *Contact:* Blair Martin, U.S. Environmental Protection Agency, AEERL MD 60, Research Triangle Park, North Carolina 27711; telephone (919) 541-7504; fax (919) 541-5227.

September 29, 1994: Building Credibility from the Inside: Organizational Factors and Risk Communication, presented by Caron Chess, MA, director, Center for Environmental Communication, Rutgers University; Atlanta, Georgia; Turner Conference Center, 5 PM. *Contact:* Tim Tinker, Agency for Toxic Substances and Disease Registry, 1600 Clifton Road, NE, Mailstop E33, Atlanta, Georgia 30333; telephone (404) 639-6206; fax (404) 639-6208.

OCTOBER

October 22-26, 1994: American Academy of Pediatrics Annual Meeting, Dallas, Texas. *Contact:* AAP, 141 Northwest Point Boulevard, P.O. Box 927, Elk Grove, Illinois 60009-0927; telephone (708) 981-4321; fax (708) 228-5059.

October 30 - November 3, 1994: American Public Health Association Annual Meeting, Washington, DC. *Contact:* APHA, 1015 Fifteenth Street, NW, Washington, DC 20005; telephone (202) 789-5600.

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Notices to Readers

CDC Names New Deputy Director

Centers for Disease Control and Prevention (CDC) Director David Satcher, MD, PhD, has announced that Claire V. Broome, MD, of Atlanta, has been named deputy administrator of the Agency for Toxic Substances and Disease Registry (ATSDR) and deputy director of CDC.

As deputy administrator of ATSDR, Dr. Broome helps to prevent exposure and adverse human health effects and diminished quality of life associated with exposure to hazardous substances from waste sites, unplanned releases, and other sources of pollution in the environment. As deputy director of CDC, Dr. Broome assists in leading this agency of the Public Health Service responsible for promoting health and preventing disease, injury, and premature death.

Prior to this appointment, Dr. Broome had been acting CDC deputy director since April 1994 and the associate director for science, the chief scientific advisor to the director, since 1990. From July to December 1993, Dr. Broome was acting director of the newly created National Center for Injury Prevention and Control. She served as chief of the Special Pathogens Branch of Bacterial Disease Division, Bureau of Epidemiology, from 1981 to 1990. Dr. Broome began her career with CDC in 1977 as an epidemic intelligence officer assigned to this branch.

For her outstanding work in science, Dr. Broome has been the recipient of numerous honors. She has been a recipient of the Alexander Langmuir Award, the C.C. Shepard Science Award, and the Public Health Service Meritorious Service Medal. A frequently published author on infectious diseases, her primary area of investigation has been the epidemiology of bacterial meningitis and respiratory disease, leading to her receiving the prestigious Squibb Award for Excellence of Achievement in Infectious Diseases. Dr. Broome has also been involved extensively in investigations of newly described pathogens including Brazilian purpuric fever and cat-scratch disease.

A world-renowned lecturer and a member of numerous professional societies, Dr. Broome also serves on many advisory committees including the Food and Drug Administration's Committee on Vaccines and Biologics and the World Health Organization's Steering Committee for Vaccine Development.

In announcing the appointment, Dr. Satcher said, "Dr. Broome is internationally renowned for her innovative scientific accomplishments and for her ability to design practical, effective prevention methods. She has dealt with many of the important and complex public health issues of our time, ranging from Legionnaires' disease and toxic shock syndrome to violence and injuries."

A native of Tunbridge Wells, England, Dr. Broome graduated magna cum laude from Harvard Medical School in 1975 after receiving a bachelor of arts degree magna cum laude at Harvard University in 1970. She received training in internal medicine at the University of California, San Francisco, and served her medical residency in infectious diseases at Massachusetts General Hospital.

Dr. Broome currently resides in Atlanta with her husband John Head and their two sons, Gabriel and Steven.

New Director Named for National Center for Environmental Health

Centers for Disease Control and Prevention (CDC) Director David Satcher, MD, PhD, has announced that Richard J. Jackson, MMS, MD, MPH, has been appointed director of the National Center for Environmental Health (NCEH). Dr. Jackson comes to CDC from the California Department of Health Services, where he has provided leadership on issues ranging from prevention of childhood lead poisoning to protection of the public from agricultural pesticides and industrial solvents. He was also instrumental in establishing the California Birth Defects Monitoring Program.

Dr. Satcher said, "I am delighted that Dr. Jackson will be joining CDC to lead our National Center for Environmental Health in its important work. He is a well-

known scientist and advocate for environmental health and will be an asset to CDC's efforts to reduce illness and death due to exposure to environmental hazards."

CDC's National Center for Environmental Health is charged with promoting health and quality of life by preventing and controlling disease, injury, and disability caused by or related to the interactions between people and their environment outside the workplace. The \$61 million center, staffed with 375 employees, is responsible for programs related to the prevention of birth defects and lead poisoning and morbidity and mortality from environmental hazards.

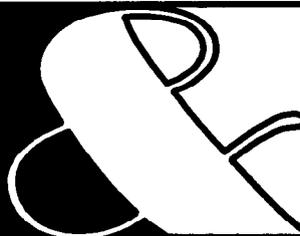
From 1975 to 1977, Dr. Jackson served as an epidemic intelligence Service (EIS) officer at CDC, with assignments to the New York State Health Department and

the Smallpox Eradication Program in India. He received the 1977 Alexander D. Langmuir Prize for Outstanding Epidemic Investigation.

For the past 15 years, Dr. Jackson has served with the California Department of Health Services. He has headed the Office of Environmental Health Hazard Assessment for the California Environmental Protection Agency and is currently chief of the Division of Communicable Disease Control.

Dr. Jackson received his BA from St. Peter's College in New Jersey, his MMS from Rutgers Medical School, his MD from the University of California, San Francisco, and his MPH from the University of California, Berkeley. He is board certified in pediatrics and preventive medicine.

hazardous substances



Public Health

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David Satcher, MD, PhD
Administrator
Agency for Toxic Substances and Disease Registry

Barry L. Johnson, PhD
Assistant Administrator

Max R. Lum, EdD, MPA
Director, Division of Health Education

Managing Editor Teresa L. Ramsey
Assistant Editor Susan Coatsworth
Staff Writers Susan Coatsworth
Kathy Harben
Nancy Haynie-Mooney
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